XIII.—CLICKING NOISE MADE BY MUNTJAC

It is, I think, necessary—in view of the note on this subject at page 795, vol. xxxii, No. 4, by Mr. B. B. Osmaston—to elucidate further my meaning. Possibly I did not express myself sufficiently clearly when writing on former occasions, and I am now without any of the previous notes or copies of them to refer to.

My contention is that the very slight clicking noise which is to be heard when the Muntjac is close to one moving slowly and quietly in puzzled alarm cannot be heard when the animal bounds off. When the animal, fully alarmed, bounds away, a much louder clicking is heard. I have of course heard it many, many times during the past thirty-eight years in India and in all parts of the country including the United Provinces and the Central Provinces. A voice call it is without doubt. Possibly it is merely a louder development of the low and quiet clickings which I have heard, as I have tried to explain, *before* the animal has made any audible movement at all.

I have a recollection of having read somewhere lately—perhaps it was in a recent issue of this Journal ?—that a Muntjac in captivity has been observed making this clicking noise to which I refer by a movement of its tongue. That, if a fact, should put an end to any doubt in the matter.

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[The reference in the last para of the above note is to the remarks made on the subject by Mr. Theobald on page, 593 of vol. xxxii. EDS.]

XIV.—SOME NOTES ON THE PANGOLIN (MANIS PENTADACTYLA) IN BURMA.

(With a plate)

Recently Mr. Gordon Hundley of Messrs. Steel Brothers and Company, Limited, captured in the Pyinmana district, Upper Burma, two adult females and one baby Pangolin (*Manis pentadactyla*) and sent them to the Rangoon Zoological Gardens. As the Rangoon Zoo has received several of these animals in recent years and as they have all died owing to their being impossible to feed, it was decided to release them and they were let loose in the jungle near Rangoon—the mother carrying away the baby riding on her tail as is shown in the accompanying photograph.

Pangolins are common throughout Burma and it is believed that their food consists chiefly of white ants. They spend the day as a rule in deep holes but they are good climbers and I have found them in the daytime in the branches of a tree. They are of interest owing to the fact that though possessing scales they are mammals and suckle their young. Unlike most small mammals, they have only a single pair of mammary glands on the chest. They share with the binturong (Arctictis binturong), also found in Burma, the 28 distinction of being the only two mammals of the Old World possessing prehensile tails. (Nearly all mammals having prehensile tails are natives of South America).

The Burmans call them *thingwegyat* and believe that they have the power of making a sound resembling a human voice and . in this way they call people. If a man is called by a pangolin and replies, it is believed that he will die immediately. The death of a Forest Ranger at the Pyinmana Forest School some years ago was ascribed to his having replied to a *thingwegyat*. It would be interesting to know the origin of this superstition, which is widespread throughout Burma and also among the Laos and Karens, especially as it is most probable that these animals are incapable of making any noise at all. The Burman is, owing to this belief, always reluctant to answer the shouts of any travellers who have lost their way and who may be making for camp at night.

I enclose three photos which were taken by Mr. G. Hundley showing the infant riding on his mother's back and also the infant suckling.

July 25, 1928.

S. F. HOPWOOD, *I.F.S.*

Three species of Pangolins or Scaly Ant-eaters are included in the Indian fauna. The Indian Scaly Ant-eater (Manis crassicaudata), the Chinese species (M. pentadactyla-M. aurita of Blanford) which ranges through Nepal, Sikhim, Assam and Burma and the Malavan species, M. javanica which occurs in Tenasserim. Our Scalv Ant-eaters are generally, though erroneously, referred to as Armadillos. Armadillos are members of a distinct family, the *Dasypodida*, confined to the American Continent. They have all a more or less rigid covering of bony plates imbedded in the skin which are not in the least comparable to the scales of our Pangolins. The Scaly Ant-eaters are characterised by their want of teeth; while the term 'Edentate' (without teeth) is scarcely applicable to the Armadillos all of which possess teeth. Between the scales of a Pangolin lie hairs which seem to be absent in the adults of African species, though present in the young. This serves as a distinguishing feature between Oriental and Ethiopian forms. The scales may be looked upon as hairs, or rather spines, enormously enlarged and dilated.

In vol. xi, p. 165 of the *Journal*, Mr. A. L. Butler records the digging out of a family of Scaly Ant-eaters. The burrow was about 8 feet in length and ended 4 feet underground in a circular chamber some 2 feet in diameter. The young one taken at the time was 18 inches long, much paler than the adults, and, says Mr. Butler, ' the female carried him everywhere on her back.' Mr. C. G. Chevenix Trench records his efforts to rear a baby Pangolin in vol. xxiv, p. 590 of the *Journal*. It was fed on cow's milk three times a day from an ordinary feeding bottle with a rubber nipple and drank about one-third of a pint daily, diluted to the proportions of two parts of milk to one part of water. The note records that the animal was quite healthy but very sensitive to cold and died on its transfer to a colder district early in December. Between August and December on the above regimen it had nearly doubled its weight.